CONTENTS SHEET NO. V ~ À REFERENCE 38331.

DESCRIPTION

TITLE SHEET LEGEND SITE PLAN

PROFILE(S)

BORE LOG(S)

STATE OF NORTH CAROLINA

DEPARTMENT OF TRANSPORTATION **DIVISION OF HIGHWAYS** GEOTECHNICAL ENGINEERING UNIT

STRUCTURE SUBSURFACE INVESTIGATION

COUNTY <u>DAVIDSON</u>

PROJECT DESCRIPTION REPLACE BRIDGE 27 OVER US 29-64-70/I-85 BUSINESS LOOP ON US 52/NC 8

SITE DESCRIPTION NOISE WALL ON SERVICE RD. (SR 1895) (-NW-STA.10+00 TO 22+45)

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-3159	1	11

CAUTION NOTICE

THE SUBSURFACE INFORMATION AND THE SUBSURFACE INVESTIGATION ON WHICH IT IS BASED WERE MADE FOR THE PURPOSE OF STUDY, PLANNING AND DESIGN, AND NOT FOR CONSTRUCTION OR PAY PURPOSES. THE VARIOUS FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA AVAILABLE MAY BE REVIEWED OR INSPECTED IN RALEIGH BY CONTACTING THE N. C. DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING UNIT AT 1999 707-8850. THE SUBSURFACE PLANS AND REPORTS, FIELD BORING LOGS, ROCK CORES AND SOIL TEST DATA ARE NOT PART OF THE CONTRACT.

GENERAL SOIL AND ROCK STRATA DESCRIPTIONS AND INDICATED BOUNDARIES ARE BASED ON A GEOTECHNICAL INTERPRETATION OF ALL AVAILABLE SUBSURFACE DATA AND MAY NOT NECESSARILY REFLECT THE ACTUAL SUBSURFACE CONDITIONS BETWEEN BORINGS OR BETWEEN SAMPLED STRATA WITHIN THE BOREHOLE. THE LABORATORY SAMPLE DATA AND THE IN SITU (MIN-PLACE) TEST DATA CAN BE RELIED ON ONLY TO THE DEGREE OF RELIABILITY INHERENT IN THE STANDARD TEST METHOD. THE OBSERVED WATER LEVELS OR SOIL MOISTURE CONDITIONS MOLCATED IN THE SUBSURFACE INVESTIGATION. THESE WATER LEVELS OR SOIL MOISTURE CONDITIONS MAY VARY CONSIDERABLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS MAY VARY CONSIDERABLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS MAY VARY CONSIDERABLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS MAY VARY CONSIDERABLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS MAY VARY CONSIDERABLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS MAY VARY CONSIDERABLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS MAY VARY CONSIDERABLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS MAY VARY CONSIDERABLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS MAY VARY CONSIDERABLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS MAY VARY CONSIDERABLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS MAY VARY CONSIDERABLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS MAY VARY CONSIDERABLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS MAY VARY CONSIDERABLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS MAY VARY CONSIDERABLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS MAY VARY CONSIDERABLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS MAY VARY CONSIDERABLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS MAY VARY CONSIDERABLY WITH TIME ACCORDING TO CLIMATIC CONDITIONS WATCH THE CONDIT INCLUDING TEMPERATURES, PRECIPITATION AND WIND, AS WELL AS OTHER NON-CLIMATIC FACTORS.

THE BIDDER OR CONTRACTOR IS CAUTIONED THAT DETAILS ASOWN ON THE SUBSURFACE PLANS ARE PRELIMINARY ONLY AND IN MANY CASES THE FINAL DESIGN DETAILS ARE DIFFERENT, FOR BIDDING AND CONSTRUCTION PURPOSES, REFER TO THE CONSTRUCTION PLANS AND DOCUMENTS FOR FINAL DESIGN INFORMATION ON THIS PROJECT. THE DEPARTMENT DOES NOT WARRANT OR GUARANTEE THE SUFFICIENCY OR ACCURACY OF THE INVESTIGATION MADE, NOR THE INTERPRETATIONS MADE, OR OPINION OF THE DEPARTMENT AS TO THE TYPE OF MATERIALS AND CONDITIONS TO BE ENCOUNTERED. THE BIDDER OR CONTRACTOR IS CAUTIONED TO MAKE SUCH INDEPENDENT SUBSURFACE INVESTIGATIONS AS HE DEEMS NECESSARY TO SATISFY HIMSELF AS TO CONDITIONS TO BE ENCOUNTERED ON THE PROJECT. THE CONTRACTOR SHALL HAVE NO CLAIM FOR ADDITIONAL COMPENSATION OR FOR AN EXTENSION OF TIME FOR ANY REASON RESULTING FROM THE ACTUAL CONDITIONS FOO BE INCOUNTERED AT THE SITE DIFFERING FROM THOSE INDICATED IN THE SUBSURFACE INFORMATION.

- ES:
 THE INFORMATION CONTAINED HEREIN IS NOT IMPLIED OR GUARANTEED BY THE N.C. DEPARTMENT
 OF TRANSPORTATION AS ACCURATE NOR IS IT CONSIDERED PART OF THE PLANS, SPECIFICATIONS
 OR CONTRACT FOR THE PROJECT.
 BY HAVING REQUESTED THIS INFORMATION, THE CONTRACTOR SPECIFICALLY WAIVES ANY CLAIMS
 FOR INCREASED COMPENSATION OR EXTENSION OF TIME BASED ON DIFFERENCES BETWEEN THE
 CONDITIONS INDICATED HEREIN AND THE ACTUAL CONDITIONS AT THE PROJECT SITE.

C.C. MURRAY J.E. ESTEP W.R. MOORE INVESTIGATED BY J.E. BEVERLY DRAWN BY __J.K. McCLURE

PERSONNEL

DATE APRIL 2015

CHECKED BY C.B. LITTLE SUBMITTED BY __C.B. LITTLE

4/27/2015

DATE

SIGNATURE

PROJECT REFERENCE NO. SHEET NO. 2

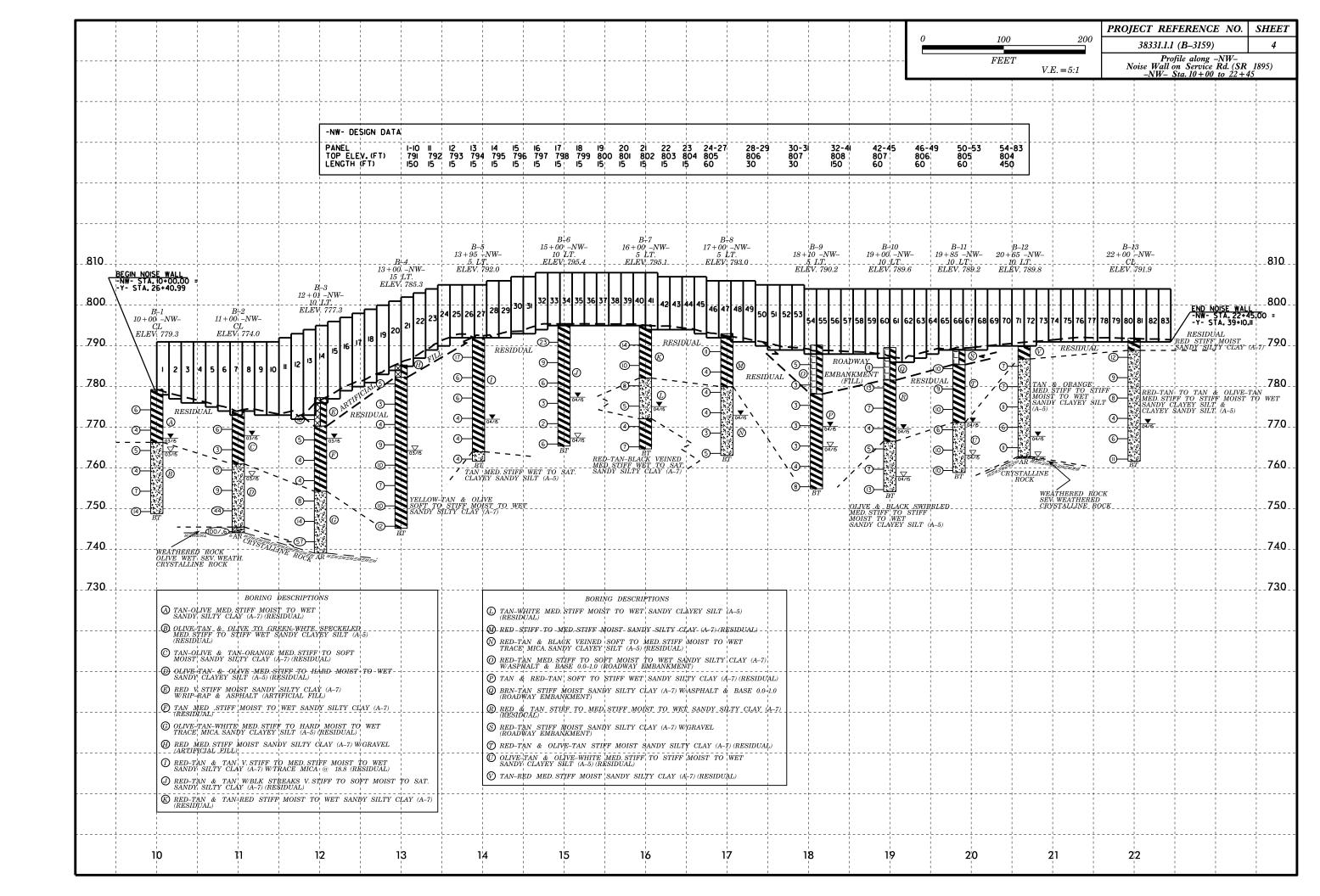
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS GEOTECHNICAL ENGINEERING UNIT

SUBSURFACE INVESTIGATION

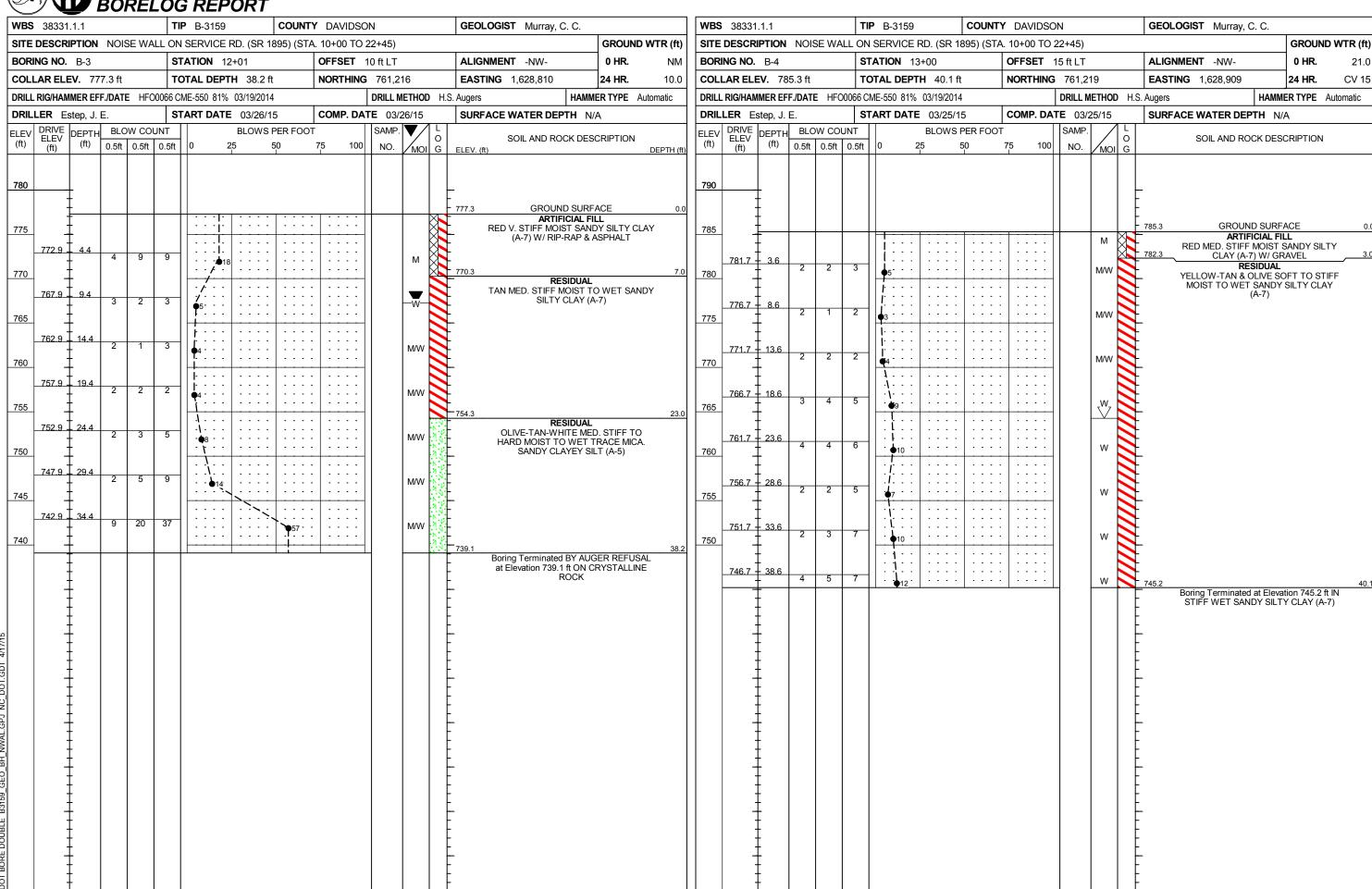
SOIL AND ROCK LEGEND, TERMS, SYMBOLS, AND ABBREVIATIONS

SOIL DESCRIPTION	GRADATION	ROCK DESCRIPTION	TERMS AND DEFINITIONS
SOIL IS CONSIDERED UNCONSOLIDATED, SEMI-CONSOLIDATED, OR WEATHERED EARTH MATERIALS THAT CAN BE PENETRATED WITH A CONTINUOUS FLIGHT POWER AUGER AND YIELD LESS THAN 100 BLOWS PER FOOT	<u>WELL GRADED</u> - INDICATES A GOOD REPRESENTATION OF PARTICLE SIZES FROM FINE TO COARSE. <u>UNIFORMLY GRADED</u> - INDICATES THAT SOIL PARTICLES ARE ALL APPROXIMATELY THE SAME SIZE.	HARD ROCK IS NON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT REFUSAL IF TESTED. AN INFERRED ROCK LINE INDICATES THE LEVEL AT WHICH NON-COASTAL PLAIN MATERIAL WOULD YIELD SPT REFUSAL.	ALLUVIUM (ALLUV.) - SOILS THAT HAVE BEEN TRANSPORTED BY WATER.
ACCORDING TO THE STANDARD PENETRATION TEST (AASHTO T 206, ASTM D1586). SOIL CLASSIFICATION	GAP-GRADED - INDICATES A MIXTURE OF UNIFORM PARTICLE SIZES OF TWO OR MORE SIZES.	SPT REFUSAL IS PENETRATION BY A SPLIT SPOON SAMPLER EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS IN NON-COASTAL PLAIN MATERIAL. THE TRANSITION BETWEEN SOIL AND ROCK IS OFTEN	AQUIFER - A WATER BEARING FORMATION OR STRATA.
IS BASED ON THE AASHTO SYSTEM. BASIC DESCRIPTIONS GENERALLY INCLUDE THE FOLLOWING: CONSISTENCY, COLOR, TEXTURE, MOISTURE, AASHTO CLASSIFICATION, AND OTHER PERTINENT FACTORS SUCH	ANGULARITY OF GRAINS	REPRESENTED BY A ZONE OF WEATHERED ROCK.	ARENACEOUS - APPLIED TO ROCKS THAT HAVE BEEN DERIVED FROM SAND OR THAT CONTAIN SAND.
AS MINERALOGICAL COMPOSITION, ANGULARITY, STRUCTURE, PLASTICITY, ETC. FOR EXAMPLE, VERY STIFF.GRAY.SULTY CLAY.MOIST WITH INTERBEDDED FINE SAND LAYERS.HIGHLY PLASTIC.A-7-6	THE ANGULARITY OR ROUNDNESS OF SOIL GRAINS IS DESIGNATED BY THE TERMS:	ROCK MATERIALS ARE TYPICALLY DIVIDED AS FOLLOWS:	ARGILLACEOUS - APPLIED TO ALL ROCKS OR SUBSTANCES COMPOSED OF CLAY MINERALS, OR HAVING A NOTABLE PROPORTION OF CLAY IN THEIR COMPOSITION, SUCH AS SHALE, SLATE, ETC.
SOIL LEGEND AND AASHTO CLASSIFICATION	ANGULAR, SUBANGULAR, SUBROUNDED, OR ROUNDED.	WEATHERED WON-COASTAL PLAIN MATERIAL THAT WOULD YIELD SPT N VALUES > ROCK (WR) 100 BLOWS PER FOOT IF TESTED.	ARTESIAN - GROUND WATER THAT IS UNDER SUFFICIENT PRESSURE TO RISE ABOVE THE LEVEL AT
CENEDAL CRANIII AR MATERIALS SILT-CLAY MATERIALS	MINERALOGICAL COMPOSITION	THE TO COARSE CRAIN ICHEOUS AND METAMORPHIC POCK THAT	WHICH IT IS ENCOUNTERED, BUT WHICH DOES NOT NECESSARILY RISE TO OR ABOVE THE GROUND
CLASS. (≤ 35% PASSING *200) (> 35% PASSING *200) ORGANIC MATERIALS	MINERAL NAMES SUCH AS QUARTZ, FELDSPAR, MICA, TALC, KAOLIN, ETC.	POCK (CP) WOULD YIELD SPT REFUSAL IF TESTED, ROCK TYPE INCLUDES GRANITE,	SURFACE.
GROUP A-1 A-3 A-2 A-4 A-5 A-6 A-7 A-1, A-2 A-4, A-5	ARE USED IN DESCRIPTIONS WHEN THEY ARE CONSIDERED OF SIGNIFICANCE.	SINE TO COAPES CRAIM METAMORPHIC AND NON-COASTAL PLAIN	CALCAREOUS (CALC.) - SOILS THAT CONTAIN APPRECIABLE AMOUNTS OF CALCIUM CARBONATE.
CLASS. A-1-a A-1-b A-2-4 A-2-5 A-2-6 A-2-7 A-7-5 A-7-6 A-3 A-6, A-7	COMPRESSIBILITY	PROCY (N/P) SEDIMENTARY ROCK THAT WOULD YEILD SPT REFUSAL IF TESTED.	COLLUVIUM - ROCK FRAGMENTS MIXED WITH SOIL DEPOSITED BY GRAVITY ON SLOPE OR AT BOTTOM
SYMBOL 000000000000000000000000000000000000	SLIGHTLY COMPRESSIBLE LL < 31 MODERATELY COMPRESSIBLE LL = 31 - 50	COASTAL PLAIN COASTAL PLAIN SEDIMENTS CEMENTED INTO ROCK, BUT MAY NOT YIELD	OF SLOPE. CORE RECOVERY (REC.) - TOTAL LENGTH OF ALL MATERIAL RECOVERED IN THE CORE BARREL DIVIDED
7. PASSING	HIGHLY COMPRESSIBLE LL > 50	SEDIMENTARY ROCK SPT REFUSAL, ROCK TYPE INCLUDES LIMESTONE, SANDSTONE, CEMENTED SHELL BEDS, ETC.	BY TOTAL LENGTH OF CORE RUN AND EXPRESSED AS A PERCENTAGE.
*10 50 MX GRANULAR CLAY MUCK, CLAY PEAT	PERCENTAGE OF MATERIAL	WEATHERING	DIKE - A TABULAR BODY OF IGNEOUS ROCK THAT CUTS ACROSS THE STRUCTURE OF ADJACENT
*40 38 MX 58 MX 51 MN SOILS SO	GRANULAR SILT - CLAY ORGANIC MATERIAL SOILS SOILS OTHER MATERIAL	FRESH ROCK FRESH, CRYSTALS BRIGHT, FEW JOINTS MAY SHOW SLIGHT STAINING, ROCK RINGS UNDER	ROCKS OR CUTS MASSIVE ROCK.
MATERIAL	TRACE OF ORGANIC MATTER 2 - 3%, 3 - 5%, TRACE 1 - 10%	HAMMER IF CRYSTALLINE.	DIP - THE ANGLE AT WHICH A STRATUM OR ANY PLANAR FEATURE IS INCLINED FROM THE HORIZONTAL.
PASSING *40 SOILS WITH	LITTLE ORGANIC MATTER 3 - 5% 5 - 12% LITTLE 10 - 20% MODERATELY ORGANIC 5 - 10% 12 - 20% SOME 20 - 35%	VERY SLIGHT ROCK GENERALLY FRESH, JOINTS STAINED, SOME JOINTS MAY SHOW THIN CLAY COATINGS IF OPEN,	<u>DIP DIRECTION (DIP AZIMUTH)</u> - THE DIRECTION OR BEARING OF THE HORIZONTAL TRACE OF THE
LL 40 MX 41 MN LITTLE OR PI 6 MX NP 10 MX 10 MX 11 MN 11 MN 10 MX 10 MX 11 MN 11	HIGHLY ORGANIC > 10% > 20% HIGHLY 35% AND ABOVE	(V SLI,) CRYSTALS ON A BROKEN SPECIMEN FACE SHINE BRIGHTLY, ROCK RINGS UNDER HAMMER BLOWS IF OF A CRYSTALLINE NATURE.	LINE OF DIP, MEASURED CLOCKWISE FROM NORTH.
CROUP INDEX 9 9 9 9 4 MY 8 MY 12 MY 16 MY NO MY AMOUNTS DE	GROUND WATER	SLIGHT ROCK GENERALLY FRESH, JOINTS STAINED AND DISCOLORATION EXTENDS INTO ROCK UP TO	FAULT - A FRACTURE OR FRACTURE ZONE ALONG WHICH THERE HAS BEEN DISPLACEMENT OF THE
USIAL TYPE STAME FRACE	✓ WATER LEVEL IN BORE HOLE IMMEDIATELY AFTER DRILLING	(SLI.) I INCH. OPEN JOINTS MAY CONTAIN CLAY. IN GRANITOID ROCKS SOME OCCASIONAL FELDSPAR	SIDES RELATIVE TO ONE ANOTHER PARALLEL TO THE FRACTURE.
OF MAJOR GRAVEL, AND SAMP CAMP SOUR SOUR SOUR SOUR	▼ STATIC WATER LEVEL AFTER 24 HOURS	CRYSTALS ARE DULL AND DISCOLORED. CRYSTALLINE ROCKS RING UNDER HAMMER BLOWS.	FISSILE - A PROPERTY OF SPLITTING ALONG CLOSELY SPACED PARALLEL PLANES.
MH TERTHES SHIND		MODERATE SIGNIFICANT PORTIONS OF ROCK SHOW DISCOLORATION AND WEATHERING EFFECTS. IN (MOD.) GRANITOID ROCKS, MOST FELDSPARS ARE DULL AND DISCOLORED, SOME SHOW CLAY. ROCK HAS	FLOAT - ROCK FRAGMENTS ON SURFACE NEAR THEIR ORIGINAL POSITION AND DISLODGED FROM PARENT MATERIAL.
GEN. RATING AS SUBGRADE EXCELLENT TO GOOD FAIR TO POOR POOR UNSUITABL	PERCHED WATER, SATURATED ZONE, OR WATER BEARING STRATA	DULL SOUND UNDER HAMMER BLOWS AND SHOWS SIGNIFICANT LOSS OF STRENGTH AS COMPARED	FLOOD PLAIN (FP) - LAND BORDERING A STREAM, BUILT OF SEDIMENTS DEPOSITED BY THE STREAM.
PI OF A-7-5 SUBGROUP IS ≤ LL - 30 ;PI OF A-7-6 SUBGROUP IS > LL - 30	→ SPRING OR SEEP	WITH FRESH ROCK.	FORMATION (FM.) - A MAPPABLE GEOLOGIC UNIT THAT CAN BE RECOGNIZED AND TRACED IN THE
CONSISTENCY OR DENSENESS	MISCELLANEOUS SYMBOLS	MODERATELY ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED, IN GRANITOID ROCKS, ALL FELDSPARS DULL SEVERE AND DISCOLORED AND A MAJORITY SHOW KAOLINIZATION, ROCK SHOWS SEVERE LOSS OF STRENGTH	FIELD.
COMPACTNISCS OR RANGE OF STANDARD RANGE OF UNCONFINED	TT 25.005	(MOD. SEV.) AND CAN BE EXCAVATED WITH A GEOLOGIST'S PICK. ROCK GIVES 'CLUNK' SOUND WHEN STRUCK.	JOINT - FRACTURE IN ROCK ALONG WHICH NO APPRECIABLE MOVEMENT HAS OCCURRED.
PRIMARY SOIL TYPE COMPACTNESS OR CONSISTENCY PENETRATION RESISTENCE COMPRESSIVE STRENGTH (IV-VALUE) (TONS/FT ²)	ROADWAY EMBANKMENT (RE) WITH SOIL DESCRIPTION OF ROCK STRUCTURES	IF TESTED, WOULD YIELD SPT REFUSAL	LEDGE - A SHELF-LIKE RIDGE OR PROJECTION OF ROCK WHOSE THICKNESS IS SMALL COMPARED TO
VERY LOOSE < 4	SPT C CLOSE INDICATOR	SEVERE ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED. ROCK FABRIC CLEAR AND EVIDENT BUT (SEV.) REDUCED IN STRENGTH TO STRONG SOIL. IN GRANITOID ROCKS ALL FELDSPARS ARE KAOLINIZED	ITS LATERAL EXTENT.
GENERALLT LOOSE 4 TO 10	SOIL SYMBOL DPT DMT TEST BORING INSTALLATION SLOPE INDICATOR INSTALLATION	TO SOME EXTENT. SOME FRAGMENTS OF STRONG ROCK USUALLY REMAIN.	LENS - A BODY OF SOIL OR ROCK THAT THINS OUT IN ONE OR MORE DIRECTIONS.
MATERIAL MEDIUM DENSE	ARTIFICIAL FILL (AF) OTHER THAN ROADWAY EMBANKMENT AUGER BORING CONE PENETROMETER	IF TESTED, WOULD YIELD SPT N VALUES > 100 BPF VERY ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED, ROCK FABRIC FLEMENTS ARE DISCERNIBLE	MOTTLED (MOT.) - IRREGULARLY MARKED WITH SPOTS OF DIFFERENT COLORS. MOTTLING IN SOILS USUALLY INDICATES POOR AERATION AND LACK OF GOOD DRAINAGE.
(NON-COHESIVE) VERY DENSE > 50	THAN ROADWAY EMBANKMENT THOUSEN BURING TEST	VERY ALL ROCK EXCEPT QUARTZ DISCOLORED OR STAINED, ROCK FABRIC ELEMENTS ARE DISCERNIBLE SEVERE BUT MASS IS EFFECTIVELY REDUCED TO SOIL STATUS, WITH ONLY FRAGMENTS OF STRONG ROCK	PERCHED WATER - WATER MAINTAINED ABOVE THE NORMAL GROUND WATER LEVEL BY THE PRESENCE
VERY SOFT < 2 < 0.25	── INFERRED SOIL BOUNDARY ————————————————————————————————————	(V SEV.) REMAINING, SAPROLITE IS AN EXAMPLE OF ROCK WEATHERED TO A DEGREE THAT ONLY MINOR	OF AN INTERVENING IMPERVIOUS STRATUM.
GENERALLY SOFT 2 TO 4 0.25 TO 0.5 SILT-CLAY MEDIUM STIFF 4 TO 8 0.5 TO 1.0	INFERRED ROCK LINE MAN MONITORING WELL TEST BORING	VESTIGES OF ORIGINAL ROCK FABRIC REMAIN. IF TESTED, WOULD YIELD SPT N VALUES < 100 BPF	RESIDUAL (RES.) SOIL - SOIL FORMED IN PLACE BY THE WEATHERING OF ROCK.
MATERIAL STIFF 8 TO 15 1 TO 2	WITH CORE	COMPLETE ROCK REDUCED TO SOIL. ROCK FABRIC NOT DISCERNIBLE, OR DISCERNIBLE ONLY IN SMALL AND SCATTERED CONCENTRATIONS. QUARTZ MAY BE PRESENT AS DIKES OR STRINGERS. SAPROLITE IS	ROCK QUALITY DESIGNATION (ROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF CORE
(COHESIVE) VERY STIFF 15 TO 30 2 TO 4 HARD > 30 > 4	→ → → → → → → → ALLUVIAL SOIL BOUNDARY \(\triangle \) PIEZOMETER INSTALLATION \(\triangle \) SPT N-VALUE	ALSO AN EXAMPLE.	RUN AND EXPRESSED AS A PERCENTAGE.
TEXTURE OR GRAIN SIZE	RECOMMENDATION SYMBOLS	ROCK HARDNESS	SAPROLITE (SAP.) - RESIDUAL SOIL THAT RETAINS THE RELIC STRUCTURE OR FABRIC OF THE PARENT
		VERY HARD CANNOT BE SCRATCHED BY KNIFE OR SHARP PICK, BREAKING OF HAND SPECIMENS REQUIRES	ROCK.
U.S. STD. SIEVE SIZE 4 10 40 60 200 270 OPENING (MM) 4.76 2.00 0.42 0.25 0.075 0.053	I I I I I I I I I I I I I I I I I I I	SEVERAL HARD BLOWS OF THE GEOLOGIST'S PICK.	SILL - AN INTRUSIVE BODY OF IGNEOUS ROCK OF APPROXIMATELY UNIFORM THICKNESS AND RELATIVELY THIN COMPARED WITH ITS LATERAL EXTENT, THAT HAS BEEN EMPLACED PARALLEL TO
COARSE FINE	SHALLOW UNCLASSIFIED EXCAVATION - USED IN THE TOP 3 FEET OF EMBANKMENT OR BACKFILL	HARD CAN BE SCRATCHED BY KNIFE OR PICK ONLY WITH DIFFICULTY. HARD HAMMER BLOWS REQUIRED TO DETACH HAND SPECIMEN.	THE BEDDING OR SCHISTOSITY OF THE INTRUDED ROCKS.
(COR) (COR) SANU SANU (SL) (CL)		MODERATELY CAN BE SCRATCHED BY KNIFE OR PICK, GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE	SLICKENSIDE - POLISHED AND STRIATED SURFACE THAT RESULTS FROM FRICTION ALONG A FAULT
(BLDR.) (COB.) (GR.) SANU SANU (SL.) (CL.)	ABBREVIATIONS	MODERATELY CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE HARD EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED	OR SLIP PLANE.
(BLOR.) (COB.) (GR.) SANU (F SD.) (SL.) (CL.) GRAIN MM 305 75 2.0 0.25 0.05 0.005	ABBRE VIATIONS AR - AUGER REFUSAL MED MEDIUM VST - VANE SHEAR TEST	MODERATELY CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE HARD EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS.	OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF
(BLOR.) (COB.) (GR.) SANU (F SD.) (SL.) (CL.) CRAIN MM 305 75 2.0 0.25 0.05 0.005 SIZE IN. 12 3 3 3 3 3	ABBREVIATIONS AR - AUGER REFUSAL MED MEDIUM VST - VANE SHEAR TEST BT - BORING TERMINATED MICA, - MICACEOUS WEA WEATHERED CL CLAY MOD MODERATELY 7 - UNIT WEIGHT	MODERATELY CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS. MEDIUM CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. HARD CAN BE EXCAVATED IN SMALL CHIPS TO PEICES I INCH MAXIMUM SIZE BY HARD BLOWS OF THE	OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL
(BLOR.) (COB.) (GR.) SANU (CSE. SD.) SANU (F SD.) (SL.) (CL.) GRAIN MM 305 75 51ZE IN. 12 3 75 2.0 0.25 0.05 0.05 0.005 0.005 0.005 SOIL MOISTURE - CORRELATION OF TERMS	ABBREVIATIONS AR - AUGER REFUSAL MED MEDIUM VST - VANE SHEAR TEST BT - BORING TERMINATED MICA MICACEOUS WEA WEATHERED CL CLAY MOD MODERATELY 7 - UNIT WEIGHT CPT - CONE PENETRATION TEST NP - NON PLASTIC 7 - DRY UNIT WEIGHT	MODERATELY CAN BE SCRATCHED BY KNIFE OR PICK, GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK, HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS. MEDIUM CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT, HARD CAN BE EXCAVATED IN SMALL CHIPS TO PEICES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK.	OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF I FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS.
(BLOR.) (COB.) (GR.) SANU (F SD.) (SL.) (CL.) CRAIN MM 305 75 2.0 0.25 0.05 0.005 SIZE IN. 12 3 3 3 3 3	ABBREVIATIONS AR - AUGER REFUSAL MED MEDIUM VST - VANE SHEAR TEST BT - BORING TERMINATED MICA, - MICACEOUS WEA WEATHERED CL CLAY MOD MODERATELY 7 - UNIT WEIGHT	MODERATELY CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE HARD EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK, HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS. MEDIUM CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PEICES I INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK. SOFT CAN BE GROVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS	OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL
(BLDR.) (COB.) (GR.) (CSE. SD.) (FSD.) (SL.) (CL.)	ABBREVIATIONS AR - AUGER REFUSAL BT - BORING TERMINATED MICA MICACEOUS CL CLAY CPT - CONE PENETRATION TEST DHT - DIVAMIC PENETRATION TEST DPT - DYNAMIC PENETRATION TEST SAP SAPROLLTIC SS - BULK MED WEATHERED WEA WEATHERED WEAL - WEATHERED WEA WEATHERED WEAL - WEATHERED W	MODERATELY CAN BE SCRATCHED BY KNIFE OR PICK, GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK, HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS. MEDIUM CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT, HARD CAN BE EXCAVATED IN SMALL CHIPS TO PEICES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK.	OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE.
(BLDR.) (COB.) (GR.) (CSE. SD.) (F SD.) (SL.) (CL.) GRAIN MM 305 75 2.0 0.25 0.05 0.005 SIZE IN. 12 3 SOIL MOISTURE - CORRELATION OF TERMS SOIL MOISTURE SCALE FIELD MOISTURE CLUDE FOR SIGN MOISTURE DESCRIPTION	ABBREVIATIONS AR - AUGER REFUSAL MED MEDIUM VST - VANE SHEAR TEST BIT - BORING TERMINATED MICA MICACEOUS WEA WEATHERED CL CLAY MOD MODERATELY 7 - UNIT WEIGHT CPT - CONE PENETRATION TEST NP - NON PLASTIC CSE COARSE ORG ORGANIC DMT - DILATOMETER TEST PMT - PRESSUREMETER TEST SAPPLE ABBREVIATIONS DPT - DYNAMIC PENETRATION TEST SAP. SAPROLITIC S - BULK e - VOID RATIO SD SAND, SANDY SS - SPLIT SPOON	MODERATELY CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK, HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS. MEDIUM CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PEICES I INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK. SOFT CAN BE GROVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE. VERY CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES I INCH	OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF I FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (SROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY
(BLDR.) (COB.) (GR.) (GR.) (CSE. SD.) (F SD.) (SL.) (CL.) GRAIN MM 305 75 2.0 0.25 0.05 0.005 SIZE IN. 12 3 SOIL MOISTURE - CORRELATION OF TERMS SOIL MOISTURE SCALE (ATTERBERG LIMITS) FIELD MOISTURE DESCRIPTION - SATURATED - USUALLY LIQUID; VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE	ABBREVIATIONS AR - AUGER REFUSAL BT - BORING TERMINATED MICA MICACEOUS CL CLAY MOD MODERATELY CPT - CONE PENETRATION TEST OPT - DYNAMIC PENETRATION TEST DPT - DYNAMIC PENETRATION TEST DPT - DYNAMIC PENETRATION TEST SAP SAPROLITIC CSC VOID RATIO F - FINE SL SLIT, SLITY FOSS FOSSILIFEROUS SLI SLIGHTLY RS - ROCK MEA VANE SHEAR TEST WASH WEATHERED WEA WEATHERED WEAL - WEAT	MODERATELY CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK, HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS. MEDIUM CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PEICES I INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK. SOFT CAN BE GROVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE. VERY CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK, PIECES I INCH SOFT OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY	OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF I FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (SRQD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE.
(BLDR.) (COB.) (GR.) (GR.) (CSE. SD.) (F SD.) (SL.) (CL.) GRAIN MM 305 75 2.0 0.25 0.05 0.005 SIZE IN. 12 3 SOIL MOISTURE - CORRELATION OF TERMS SOIL MOISTURE SCALE (ATTERBERG LIMITS) DESCRIPTION (ATTERBERG LIMITS) USUALLY LIQUID: VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE PLASTIC RANGE - WET - (W) SEMISOLID: REQUIRES DRYING TO	ABBREVIATIONS AR - AUGER REFUSAL BT - BORING TERMINATED CL CLAY CPT - CONE PENETRATION TEST CSE COARSE DMT - DILATOMETER TEST DPT - DYNAMIC PENETRATION TEST PT - VOYAMIC PENETRATION TEST PT - POYAMIC PENETRATION TEST PT - STAND, SANDY SS - SPLIT SPOON F - FINE SL SILT, SILTY FOSS FOSSILIFEROUS SLI SILOTE REFUSAL RT - RECOMPACTED TRIAXIAL RT - RECOMPACTED TRIAXIAL RT - RECOMPACTED TRIAXIAL	MODERATELY HARO MODERATELY HARO MEDIUM CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS. MEDIUM CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PEICES I INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK. SOFT CAN BE GROVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE. VERY CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES I INCH SOFT OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGERNAIL.	OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF I FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (SRQD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE. TOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER.
(BLDR.) (COB.) (GR.) (GR.) (CSE. SD.) (F SD.) (SL.) (CL.) GRAIN MM 305 75 2.0 0.25 0.05 0.005 SIZE IN. 12 3 SOIL MOISTURE - CORRELATION OF TERMS SOIL MOISTURE SCALE (ATTERBERG LIMITS) DESCRIPTION (ATTERBERG LIMITS) USUALLY LIQUID: VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE PLASTIC RANGE - WET - (W) SEMISOLID: REQUIRES DRYING TO	ABBREVIATIONS AR - AUGER REFUSAL BT - BORING TERMINATED MICA MICACEOUS CL CLAY MOD MODERATELY CPT - CONE PENETRATION TEST OPT - DYNAMIC PENETRATION TEST DPT - DYNAMIC PENETRATION TEST DPT - DYNAMIC PENETRATION TEST SAP SAPROLITIC CSC VOID RATIO F - FINE SL SLIT, SLITY FOSS FOSSILIFEROUS SLI SLIGHTLY RS - ROCK MEA VANE SHEAR TEST WASH WEATHERED WEA WEATHERED WEAL - WEAT	MODERATELY HARO MODERATELY HARO MEDIUM CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS. MEDIUM CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PEICES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK. SOFT CAN BE GROVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE. VERY CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGERNAIL. FRACTURE SPACING BEDDING	OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (SROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE.
(BLDR.) (COB.) (GR.) (GR.) (CSE. SD.) (F SD.) (SL.) (CL.) GRAIN MM 305 75 2.0 0.25 0.05 0.005 SIZE IN. 12 3 SOIL MOISTURE - CORRELATION OF TERMS SOIL MOISTURE SCALE (ATTERBERG LIMITS) FIELD MOISTURE DESCRIPTION COMPANDED TO THE COUNTY OF TERMS SOIL MOISTURE SCALE (ATTERBERG LIMITS) SEMISOLID; REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE PLASTIC (PI) PL PLASTIC LIMIT	ABBRE VIATIONS AR - AUGER REFUSAL BT - BORING TERMINATED MICA MICACEOUS WEA WEATHERED CL CLAY MOD MODERATELY CPT - CONE PENETRATION TEST CSE COARSE ORG ORGANIC OMT - DILATOMETER TEST DPT - DYNAMIC PENETRATION TEST E - VOID RATIO F - FINS SL SAND, SANDY F - FINS SL SILT, SILTY FRACTURED, FRACTURES FRAC FRACTURED, FRACTURES TWO HOLD TO HOLD TO HEARTING WEA VALUE SHEAR TEST WEA VALUE SHEAR TEST WEA WEATHERED WEA VALUE SHEAR TEST WEA MEATHERE WEA WEATHERE WEA FRACTURED, FRACTURES TOR - TRICONE REFUSAL FRACS FRAGMENTS WEATHER WEA	MODERATELY HARD MODERATELY HARD EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK, HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS. MEDIUM HARD CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PEICES I INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK. SOFT CAN BE GROVED OR GOUGED READILY BY KNIFE OR PICK, CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE. VERY CAN BE CARVED WITH KNIFE, CAN BE EXCAVATED READILY WITH POINT OF PICK, PIECES I INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGERNAIL. FRACTURE SPACING TERM VERY WIDE MORE THAN 10 FEET VERY THICKLY BEDDED 4 FEET	OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF I FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (SREC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (SROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM COUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE. TOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER. BENCH MARK:
(BLOR.) (COB.) (GR.) (CSE. SD.) (F SD.) (SL.) (CL.) CRAIN MM 305 75 2.0 0.25 0.05 0.005 SIZE IN. 12 3 SOIL MOISTURE - CORRELATION OF TERMS SOIL MOISTURE SCALE (ATTERBERG LIMITS) FIELD MOISTURE DESCRIPTION DESCRIPTION GUIDE FOR FIELD MOISTURE DESCRIPTION - SATURATED - USUALLY LIQUID: VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE PLASTIC (SAT.) SEMISOLID: REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE - WET - (W) SEMISOLID: REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE - WET - (W) SOLID: AT OR NEAR OPTIMUM MOISTURE	ABBRE VIATIONS AR - AUGER REFUSAL BT - BORING TERMINATED MICA MICACEOUS CL CLAY MOD MODERATELY CPT - CONE PENETRATION TEST OMC ORGANIC OMT - DILATOMETER TEST DPT - DYNAMIC PENETRATION TEST e - VOID RATID F - FINE SL SILT, SILTY FOSS FOSSILIFEROUS SLI SLIGHTLY RESURE CONTENT TRACE, - FRACTURED, FRACTURES FRACE, - FRAGMENTS M - MOISTURE CONTENT WEAL - VEAT WEATHER TEST WEAL - VEAT WEATHER WEAL - WEATHER TEST WEAL - WEATHER WEAL - WEATHER TEST OF - NOD PLASTIC SAMPLE ABBREVIATIONS S - SULK S - SULK S - SPLIT SPOON ST - SHELBY TUBE FOSS FOSSILIFEROUS SLI SLIGHTLY RS - ROCK FRACE, - FRAGMENTS M - MOISTURE CONTENT CBR - CALIFORNIA BEARING HI HIGHLY V - VERY RATIO	MODERATELY HARO MODERATELY HARO EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK, HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS. MEDIUM CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PEICES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK. SOFT CAN BE GROVED OR GOUGED READILY BY KNIFE OR PICK, CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT, SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE. VERY CAN BE CARVED WITH KNIFE, CAN BE EXCAVATED READILY WITH POINT OF PICK, PIECES 1 INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGERNAIL. FRACTURE SPACING TERM VERY WIDE MORE THAN 10 FEET VERY THICKLY BEDDED 1.5 - 4 FEET	OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. STRATA CORRE RECOVERY (SSEC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (SROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE.
(BLOR.) (COB.) (GR.) (GR.) (CSE.SD.) (FSD.) (SL.) (CL.) CRAIN MM 305 75 2.0 0.25 0.05 0.005 SIZE IN. 12 3 SOIL MOISTURE - CORRELATION OF TERMS SOIL MOISTURE SCALE (ATTERBERG LIMITS) FIELD MOISTURE DESCRIPTION CRAIN MM 305 75 2.0 0.25 0.05 0.005 SOIL MOISTURE - CORRELATION OF TERMS SOIL MOISTURE SCALE (ATTERBERG LIMITS) GUIDE FOR FIELD MOISTURE DESCRIPTION - SATURATED - USUALLY LIQUID: VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE PLASTIC RANGE (PI) PL PLASTIC LIMIT OM OPTIMUM MOISTURE SHRINKAGE LIMIT - MOIST - (M) SOLID: AT OR NEAR OPTIMUM MOISTURE SHRINKAGE LIMIT	ABBREVIATIONS AR - AUGER REFUSAL BT - BORING TERMINATED MICA MICACEOUS CL CLAY CLAY CPT - CONE PENETRATION TEST CSE COARSE DIATOMETER TEST DPT - DYNAMIC PENETRATION TEST PMT - PRESSUREMETER TEST DPT - DYNAMIC PENETRATION TEST SAP SAPROLITIC CS - SAND, SANDY SS - SELIT SPOON F - FINE SL SILT, SILTY F - FINE FOSS FOSSILIFEROUS SLI SLIGHTLY RS - ROCK RTAGG FRACTURED, FRACTURES FRACS FRAGMENTS MOISTURE CONTENT V - VERY RATIO EQUIPMENT USED ON SUBJECT PROJECT	MODERATELY HARD MODERATELY HARD MODERATELY HARD MODERATELY HARD MODERATE BLOWS. MEDIUM CAN BE GROOVED OR GOUGEO 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PEICES I INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK. SOFT CAN BE CACAVATED IN SMALL CHIPS TO PEICES I INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK. SOFT CAN BE GROVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE. VERY CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES I INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGERNAIL. FRACTURE SPACING IERM VERY WIDE MORE THAN 10 FEET WIDE 3 TO 10 FEET THICKLY BEDDED 0.15 - 4 FEET THICKLY BEDDED 0.16 - 1.5 FEET CLOSE 0.16 TO 1 FOOT VERY THINLY BEDDED 0.03 - 0.16 FEET	OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. STRATA CORRE RECOVERY (SSEC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (SROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE.
(BLOR.) (COB.) (GR.) (CSE. SD.) (F SD.) (SL.) (CL.) CRAIN MM 305 75 2.0 0.25 0.05 0.005 SIZE IN. 12 3 SOIL MOISTURE - CORRELATION OF TERMS SOIL MOISTURE SCALE (ATTERBERG LIMITS) FIELD MOISTURE DESCRIPTION DESCRIPTION GUIDE FOR FIELD MOISTURE DESCRIPTION - SATURATED - USUALLY LIQUID: VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE PLASTIC (SAT.) SEMISOLID: REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE - WET - (W) SEMISOLID: REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE - WET - (W) SOLID: AT OR NEAR OPTIMUM MOISTURE	ABBRE VIATIONS AR - AUGER REFUSAL BT - BORING TEMNINATED MICA MICACCOUS WEA WEATHERED C.L CLAY MOD MODERATELY CPT - CONE PENETRATION TEST OMT - DILATOMETER TEST DMT - DILATOMETER TEST DMT - DYNAMIC PENETRATION TEST SAP SAPROLITIC C - VOID RATIO F - FINE SL SILT, SILTY ST - SHELBY TUBE FOSS FOSSILIFEROUS SL SILT, SILTY FRACTURED, FRACTURES TCR - TRICONE REFUSAL FRACS FRAGMENTS M - MOISTURE CONTENT HI HIGHLY EQUIPMENT USED ON SUBJECT PROJECT DRILL UNITS: ADVANCING TOOLS: MANUAL MANUAL MANUAL BY - VANE SHEAR TEST WEATHERED WEA WEATHERED WEA WEATHERED WEA SHEAR TEST SAMPLE ABBREVIATIONS S - BULK S - SPLIT SPOON ST - SPELIT SPOON ST - SHELBY TUBE FRAC FRACTURED, FRACTURES TCR - TRICONE REFUSAL FRACS FRAGMENTS W - MOISTURE CONTENT CBR - CLAYBITS MANUAL BY - VERY BY - VANE SHEAR TEST WEATHER SAMPLE ABBREVIATIONS S - BULK S - SPLIT SPOON S - SAMPLE ABBREVIATIONS S - SUMPLE	MODERATELY CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK, HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS. MEDIUM CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PEICES I INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK. SOFT CAN BE GROVED OR GOUGED REDILY BY KNIFE OR PICK, CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE. VERY CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK, PIECES I INCH SOFT OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGERNAIL. FRACTURE SPACING TERM SPACING VERY WIDE MORE THAN 10 FEET WIDE MORE THAN 10 FEET THICKLY BEDDED 0.16 - 1.5 - 4 FEET MODERATELY CLOSE 1 TO 3 FEET THICKLY BEDDED 0.16 - 1.5 FEET	OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (SPEC) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (SRQD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE. DOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER. BENCH MARK: ELEVATION: FEET NOTES: SOIL STRATIGRAPHY IS THROUGH THE BORINGS FOR PROFILE.
(BLDR.) (COB.) (GR.) (GR.) (CSE.SD.) (FSD.) (SL.) (CL.) GRAIN MM 305 75 2.0 0.25 0.05 0.005 SIZE IN. 12 3 SOIL MOISTURE - CORRELATION OF TERMS SOIL MOISTURE SCALE (ATTERBERG LIMITS) FIELD MOISTURE DESCRIPTION CATTERBERG LIMITS - SATURATED - USUALLY LIQUID; VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE PLASTIC RANGE (PI) PL PLASTIC LIMIT - WET - (W) SEMISOLID; REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE SHRINKAGE LIMIT - MOIST - (M) SOLID; AT OR NEAR OPTIMUM MOISTURE SHRINKAGE LIMIT - DRY - (D) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE	ABBRE VIATIONS AR - AUGER REFUSAL BT - BORING TERMINATED MICA MEDLUM WEA WEATHERED CL CLAY MOD MODERATELY CT - CONE PENETRATION TEST OMC NODERATELY CT - COME PENETRATION TEST OMC ORGANIC OMC ORGANIC OMC ORGANIC OMT DILATOMETER TEST OMT - DINAMIC PENETRATION TEST OMT - DYNAMIC PENETRATION TEST OFT - DYNAMIC PENETRATION TEST SAP SAPROLITIC S - BULK SS - SPLIT SPOON F - FINE SL SILT, SILTY ST - SHELBY TUBE FOSS FOSSILIFEROUS SLI SLIT, SILTY FRAGS FRAGTURED, FRACTURES TCR - TRICONE REFUSAL HI HIGHLY COME-45C CME-45C CME-55 MEA WEATHERED WEA WEATHERED SAMPLE ABBREVIATIONS SS - SPLIT SPOON SS -	MODERATELY CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS. MEDIUM CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PEICES I INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK. SOFT CAN BE GROVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE. VERY CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES I INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGERNAIL. FRACTURE SPACING VERY WIDE MORE THAN 10 FEET VERY THICKLY BEDDED 4 FEET WIDE 3 TO 10 FEET THICKLY BEDDED 0.15 - 4 FEET THICKLY BEDDED 0.16 - 1.5 FEET CLOSE 0.16 TO 1 FOOT VERY THINLY BEDDED 0.030 - 0.16 FEET THINLY BEDDED 0.030 - 0.0305 FEET THICKLY BEDDED 0.0305 - 0.0305 FEET THICKLY BE	OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. STRATA CORRE RECOVERY (SSEC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (SROD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE.
(BLOR.) (COB.) (GR.) (CSE.SD.) (FSD.) (SL.) (CL.) GRAIN MM 305 75 2.0 0.25 0.05 0.005 SIZE IN. 12 3 SOIL MOISTURE - CORRELATION OF TERMS SOIL MOISTURE SCALE (ATTERBERG LIMITS) FIELD MOISTURE DESCRIPTION SOIL MOISTURE SCALE (ATTERBERG LIMITS) GUIDE FOR FIELD MOISTURE DESCRIPTION - SATURATED - (SAT.) FROM BELOW THE GROUND WATER TABLE PLASTIC RANGE (PI) PL PLASTIC LIMIT OM OPTIMUM MOISTURE SHRINKAGE LIMIT OPTIMUM MOISTURE SHRINKAGE LIMIT - MOIST - (M) SOLID; AT OR NEAR OPTIMUM MOISTURE SHRINKAGE LIMIT - DRY - (D) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE PLASTICITY	ABBRE VIATIONS AR - AUGER REFUSAL BT - BORING TERMINATED MICA MICACEOUS CL CLAY MOD MODERATELY CPT - CONE PENETRATION TEST OFFICE OF COMMENT CSE COARSE ORG ORGANIC DMT - DILATOMETER TEST DPT - DYNAMIC PENETRATION TEST OPT - OYNAMIC PENETRATION TEST E - VOID RATIO F - FINE SL SILT, SILTY FOSS FOSSILIFEROUS SLI SLIGHTLY FRAGC FRACTURED, FRACTURES HI HIGHLY COME-45C CME-55 ABBRE VIATIONS WEA VEATHERS TEST WEA WEATHERS TEST SAMPLE ABBREVIATIONS S - SHULK SS - SPLIT SPOON SS -	MODERATELY CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK, HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS. MEDIUM CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. HARD CAN BE EXCAVATED IN SMALL CHIPS TO PEICES I INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK. SOFT CAN BE GROVED OR GOUGED REDILY BY KNIFE OR PICK, CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE. VERY CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK, PIECES I INCH SOFT OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGERNAIL. FRACTURE SPACING TERM SPACING VERY WIDE MORE THAN 10 FEET WIDE VERY WIDE MORE THAN 10 FEET THICKLY BEDDED 0.16 - 1.5 FEET CLOSE 0.16 TO 1 FOOT VERY THINLY BEDDED 0.03 - 0.16 FEET THICKLY BEDDED 0.03 - 0.16 FEET THICKLY BEDDED 0.040 - 0.03 FEET THICKLY LAMINATED C0.000 FEET THICKLY LAMINATED C0.000 FEET THINLY LAMINATED C0.000 FEET	OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF I FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (SPEC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (SRQD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE. DOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER. BENCH MARK: ELEVATION: FEET NOTES: SOIL STRATIGRAPHY IS THROUGH THE BORINGS FOR PROFILE.
(BLOR.) (COB.) (GR.) (GR.) (CSE.SO.) (FSD.) (SL.) (CL.) GRAIN MM 305 75 2.0 0.25 0.05 0.005 SIZE IN. 12 3 SOIL MOISTURE - CORRELATION OF TERMS SOIL MOISTURE SCALE (ATTERBERG LIMITS) FIELD MOISTURE DESCRIPTION CATTERBERG LIMITS SCALE (SAT.) - USUALLY LIQUID; VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE PLASTIC RANGE (PI) PL PLASTIC LIMIT - WET - (W) SEMISOLID; REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE SHRINKAGE LIMIT - MOIST - (M) SOLID; AT OR NEAR OPTIMUM MOISTURE SHRINKAGE LIMIT - DRY - (D) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE	ABBRE VIATIONS AR - AUGER REFUSAL BT - BORING TEMNINATED MICA MICACCOUS WEA WEATHERED C.L CLAY MOD MODERATELY CPT - CONE PENETRATION TEST OMC ORGANIC OMT - DILATOMETER TEST DMT - DILATOMETER TEST DMT - DYNAMIC PENETRATION TEST DMT - DYNAMIC PENETRATION TEST SAP SAPROLITIC C - VOID RATIO F - FINE SL SILT, SILTY ST - SHELBY TUBE FOSS FOSSILIFEROUS SL SILT, SILTY FRACTURED, FRACTURES TCR - TRICONE REFUSAL FRACS FRAGMENTS M - MOISTURE CONTENT HI HIGHLY EQUIPMENT EQUIPMENT EQUIPMENT EQUIPMENT EQUIPMENT EQUIPMENT SCHED TO SUBJECT HAMMER TYPE: AUTOMATIC MANUAL CORE SIZE: - B - H - H - N TUNGCARRIDE INSERTS	MODERATELY HARD CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK. HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS. MEDIUM CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. HARD CAN BE EXCAVATED IN SMALL CHIPS TO PEICES I INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK. SOFT CAN BE GROVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE. VERY CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES I INCH SOFT OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGERNAIL. FRACTURE SPACING TERM SPACING VERY WIDE MORE THAN 10 FEET WIDE 3 TO 10 FEET THICKLY BEDDED 1.5 - 4 FEET THICKLY BEDDED 1.6 - 1.5 FEET THICKLY LAMINATED CO.008 FEET THICK	OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF I FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (SPEC.) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (SRQD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE. DOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER. BENCH MARK: ELEVATION: FEET NOTES: SOIL STRATIGRAPHY IS THROUGH THE BORINGS FOR PROFILE.
(BLDR.) (COB.) (GR.) (GR.) (CSE.SD.) (FSD.) (SL.) (CL.) GRAIN MM 305 75 2.0 0.25 0.05 0.005 SIZE IN. 12 3 SOIL MOISTURE - CORRELATION OF TERMS SOIL MOISTURE SCALE (ATTERBERG LIMITS) SOIL MOISTURE SCALE (SATURATED - USUALLY LIQUID; VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE PLASTIC RANGE (PI) PL PLASTIC LIMIT OM OPTIMUM MOISTURE SHRINKAGE LIMIT OM OPTIMUM MOISTURE SHRINKAGE LIMIT ON OPTIMUM MOISTURE SHRINKAGE LIMIT - MOIST - (M) SOLID; AT OR NEAR OPTIMUM MOISTURE SHRINKAGE LIMIT - DRY - (D) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE PLASTICITY PLASTICITY PLASTICITY PLASTICITY INDEX (PI) DRY STRENGTH VERY LOW SLIGHTLY PLASTIC 6-15 VERY LOW SLIGHTLY	ABBRE VIATIONS AR - AUGER REFUSAL BT - BORING TERMINATED MICA, - MICACEOUS CL CLAY MOD MODERATELY CPT - CONE PENETRATION TEST OMC ORGANIC DMT - DILATOMETER TEST DPT - DYNAMIC PENETRATION TEST C - VOID RATIO F - FINE SL SILT, SILTY F - FINE SL SILT, SILTY FRAGC FRACTURED, FRACTURES FRAC FRACTURED, FRACTURES HI HIGHLY DECLIFORM OF CONTINUOUS FLIGHT AUGER CME - 550 MAND MEDIUM WEAL - WEATHERED SAMPLE ABBREVIATIONS S - SPLIT SPOON SS - SPLIT SPOON SS - SPLIT SPOON SS - SPLIT SPOON RT - RECOMPACTED TRIAXIAL CBR - CALIFORNIA BEARING HI HIGHLY V - VERY RATIO CME - 45C CME - 45C CME - 550 HAND FACED FINGER BITS VANE SHEAR TEST WEAL - WEATHERED WE	MODERATELY CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK, HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS. MEDIUM CAN BE GROOVED OR GOUGED 0.85 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. HARD CAN BE EXCAVATED IN SMALL CHIPS TO PEICES 1 INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK. SOFT CAN BE GROVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE. VERY CAN BE CARYED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES 1 INCH SOFT OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGERNAIL. FRACTURE SPACING TERM SPACING VERY WIDE MORE THAN 10 FEET WIDE VERY WIDE MORE THAN 10 FEET THICKLY BEDDED 1.5 - 4 FEET THICKLY BEDDED 1.5 - 4 FEET THICKLY BEDDED 0.06 - 0.03 - 0.16 FEET THICKLY LAMINATED C.0.008 FEET THICKLY LAMINATED THICKLY LAMINATED C.0.008 FEET THICKLY LAMINATED C.0.008 FEET THICKLY LAMINATED C.0.008 FEET THICKLY LAMINATED C.0.008 FEET THICKLY LAMINATED FOR SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC.	OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (SPEC) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (SRQD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE. DOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER. BENCH MARK: ELEVATION: FEET NOTES: SOIL STRATIGRAPHY IS THROUGH THE BORINGS FOR PROFILE.
(BLOR.) (COB.) (GR.) (GS. SD.) (F SD.) (SL.) (CL.) CRAIN MM 305 75 2.0 0.25 0.05 0.005 SIZE IN. 12 3 SOIL MOISTURE - CORRELATION OF TERMS SOIL MOISTURE SCALE (ATTERBERG LIMITS) FIELD MOISTURE DESCRIPTION DESCRIPTION DESCRIPTION DESCRIPTION DESCRIPTION GUIDE FOR FIELD MOISTURE DESCRIPTION - SATURATED - USUALLY LIQUID: VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE - WET - (W) SEMISOLID: REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE SHRINKAGE LIMIT - MOIST - (M) SOLID: AT OR NEAR OPTIMUM MOISTURE - DRY - (D) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE PLASTICITY PLASTICITY PLASTICITY PLASTICITY INDEX (PI) DRY STRENGTH NON PLASTIC G-5 VERY LOW SLIGHTLY PLASTIC G-15 SLIGHT MODERATELY PLASTIC G-15 SLIGHT	ABBREVIATIONS AR - AUGER REFUSAL BT - BORING TERMINATED MICA MICACEOUS WEA WEATHERED CL CLAY MOD MODERATELY CPT - CONE PENETRATION TEST CSE COARSE ORG ORGANIC DMT - DILATOMETER TEST DPT - DYNAMIC PENETRATION TEST OPT - OYNAMIC PENETRATION TEST E - VOID RATIO F - FINE SL SILT, SILTY F - FINE SL SILT, SILTY FRASC FRACTURED, FRACTURES FRAC FRACTURED, FRACTURES HI HIGHLY CEUIPMENT BOULD NOT USED CME-45C CME-550 AND CARBOD MICA MEDCACCOUS MEA WEATHERED WEA WEATHERET WEA WEATHERED WEA WEATHERET WEAL - WEATHERET SAMPLE ABBREVIATIONS S - SHLIT SPOON SS - SPLIT SET SAMPLE ABBREVIATIONS SS - SPLIT SPOON SS - SPLIT SP	MODERATELY CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK, HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS. MEDIUM CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PEICES I INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK. SOFT CAN BE GROVED OR GOUGED REDILY BY KNIFE OR PICK, CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE. VERY CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK, PIECES I INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGERNAIL. FRACTURE SPACING TERM SPACING VERY WIDE MORE THAN 10 FEET VERY THICKLY BEDDED 4 FEET THICKLY BEDDED 1.5 - 4 FEET THICKLY BEDDED 1.5 FEET THICKLY BEDDED 1.5 - 4 FEET	OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (SPEC) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (SRQD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE. DOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER. BENCH MARK: ELEVATION: FEET NOTES: SOIL STRATIGRAPHY IS THROUGH THE BORINGS FOR PROFILE.
(BLOR.) (COB.) (GR.) (GS.SO.) (FSD.) (SL.) (CL.) CRAIN MM 305 75 2.0 0.25 0.05 0.005 SIZE IN. 12 3 SOIL MOISTURE - CORRELATION OF TERMS SOIL MOISTURE SCALE (ATTERBERG LIMITS) FIELD MOISTURE DESCRIPTION DESC	ABBREVIATIONS AR - AUGER REFUSAL BT - BORING TERMINATED MICA, - MICACEOUS CL CLAY MOD MODERATELY CPT - CONE PENETRATION TEST CSE COARSE ORG ORGANIC DMT - DILATOMETER TEST DPT - DYNAMIC PENETRATION TEST OPT - OYNAMIC PENETRATION TEST E - VOID RATIO F - FINE SL SILT, SILTY FRESSUREMETER TEST SAMPLE ABBREVIATIONS SS - SPLIT SPOON SS - SELES TEST CASING WAS ADVANCER POST AND STANCES SS - SPLIT SPOO	MODERATELY HARD MODERATELY HARD EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK, HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS. MEDIUM CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. HARD CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PEICES I INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK. SOFT CAN BE GROVED OR GOUGED REDILY BY KNIFE OR PICK, CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE. VERY CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK, PIECES I INCH SOFT OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGERNAIL. FRACTURE SPACING TERM SPACING VERY WIDE MORE THAN 10 FEET WIDE VERY WIDE MORE THAN 10 FEET THICKLY BEDDED A FEET WIDE VERY THINLY BEDDED A FEET THICKLY BEDDED A FEET THINLY LAMINATED VERY THINLY BEDDED A FEET THINLY LAMINATED TO AUGUST FEET THINLY LAMINATED FOR SEDIMENTARY ROCKS, INDURATION IS THE HARDENING OF MATERIAL BY CEMENTING, HEAT, PRESSURE, ETC. RUBBING WITH FINGER FREES NUMEROUS GRAINS; GENTLE BLOW BY HAMMER DISINTEGRATES SAMPLE. GRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE; BREAKS EASILY WHEN HIT WITH HAMMER.	OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (SPEC) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (SRQD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE. DOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER. BENCH MARK: ELEVATION: FEET NOTES: SOIL STRATIGRAPHY IS THROUGH THE BORINGS FOR PROFILE.
(BLOR.) (COB.) (GR.) (GS. SD.) (F SD.) (SL.) (CL.) CRAIN MM 305 75 2.0 0.25 0.05 0.005 SIZE IN. 12 3 SOIL MOISTURE - CORRELATION OF TERMS SOIL MOISTURE SCALE (ATTERBERG LIMITS) FIELD MOISTURE DESCRIPTION DESCRIPTION DESCRIPTION DESCRIPTION DESCRIPTION GUIDE FOR FIELD MOISTURE DESCRIPTION - SATURATED - USUALLY LIQUID: VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE - WET - (W) SEMISOLID: REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE SHRINKAGE LIMIT - MOIST - (M) SOLID: AT OR NEAR OPTIMUM MOISTURE - DRY - (D) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE PLASTICITY PLASTICITY PLASTICITY PLASTICITY INDEX (PI) DRY STRENGTH NON PLASTIC G-5 VERY LOW SLIGHTLY PLASTIC G-15 SLIGHT MODERATELY PLASTIC G-15 SLIGHT	ABBRE VIATIONS AR - AUGER REFUSAL BT - BORING TERMINATED MICA MICACEOUS CL CLAY MOD MODERATELY CPT - CONE PENETRATION TEST OFFICE OF COMMENT CSE COARSE ORG ORGANIC DMT - DILATOMETER TEST DPT - DYNAMIC PENETRATION TEST OPT - OYNAMIC PENETRATION TEST SAP SAPROLITIC C - VOID RATID F - FINE SL SILT, SILTY F - FINE SL SILT, SILTY FRASC FRACTURED, FRACTURES FRAC FRACTURED, FRACTURES HI HIGHLY CME-45C CME-550 AVANCING TOOLS: WAAL- WEATHERD WEAL- WEATHERD SOL - SAND, SANDY SS - SPLIT SPOON SS	MODERATELY CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK, HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS. MEDIUM CAN BE GROOVED OR GOUGED 0.85 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PEICES I INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK. SOFT CAN BE GROVED OR GOUGED REDILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE. VERY CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES I INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGERNAIL. FRACTURE SPACING TERM SPACING VERY WIDE MORE THAN 10 FEET VERY THICKLY BEDDED 4 FEET THICKLY BEDDED 1.5 - 4 FEET THICKLY BEDDED 0.16 - 1.5 FEET CLOSE 0.16 TO 1 FOOT VERY THINLY BEDDED 0.03 - 0.16 FEET THINLY BEDDED 0.093 - 0.03 - 0.16 FEET THINLY BEDDED 0.093 - 0.03 - 0.16 FEET THINLY LAMINATED 0.090 - 0.03 - 0.03 FEET THINLY LAMINATED 0.090 - 0.093 FEET THINLY LAMINATED 0.090 - 0.093 FEET THINLY LAMINATED 0.090 -	OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (SPEC) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (SRQD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE. DOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER. BENCH MARK: ELEVATION: FEET NOTES: SOIL STRATIGRAPHY IS THROUGH THE BORINGS FOR PROFILE.
(BLOR.) (COB.) (GR.) (GS.SO.) (FSD.) (SL.) (CL.) CRAIN MM 305 75 2.0 0.25 0.05 0.005 SIZE IN. 12 3 SOIL MOISTURE - CORRELATION OF TERMS SOIL MOISTURE SCALE (ATTERBERG LIMITS) FIELD MOISTURE DESCRIPTION MAY INCLUDE COLOR OR COLOR COMBINATIONS (TAN, RED, YELLOW-BROWN, BLUE-GRAY).	ABBRE VIATIONS AR - AUGER REFUSAL BT - BORING TEMNINATED MICA MICACEOUS WEA WEATHERED CL CLAY MOD MODERATELY CPT - CONE PENETRATION TEST OPT - ONO PENETRATION TEST DPT - DYNAMIC PENETRATION TEST DPT - DYNAMIC PENETRATION TEST E - VOID RATIO SD SAND, SANDY F - FINE SL SILT, SILTY FRACTURED, FRACTURES FOSS FOSSILIFEROUS SL SLICHTLY RR - ROCK FRAC FRAGMENTS HI HIGHLY DRILL UNITS: DRILL UNITS: DRILL UNITS: DRILL UNITS: DRILL UNITS: DRILL UNITS: DRILL WISS DAVANCING TOOLS: W - ADVANCER DRILL WISS DONE - SEEL W - MOISTURE COME - SIZE: W - MANUAL CME - 550 W - MARD FACED FINGER BITS W - NO STURE W - MOISTURE W - W - W - W - W - W - W - W - W - W -	MODERATELY CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK, HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS. MEDIUM CAN BE GROOVED OR GOUGED 0.05 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PEICES I INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK. SOFT CAN BE GROVED OR GOUGED READILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE. VERY CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES I INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGERNAIL. FRACTURE SPACING TERM SPACING VERY WIDE MORE THAN 10 FEET VERY THICKLY BEDDED 4 FEET THICKLY BEDDED 1.5 - 4 FEET THICKLY BEDDED 1.5 - 4 FEET THICKLY BEDDED 0.16 - 1.5 FEET THICKLY BEDDED 0.03 - 0.16 FEET THICKLY BEDDED 0.03 - 0.16 FEET THICKLY BEDDED 0.03 - 0.16 FEET THICKLY LAMINATED 0.000 FEET THICKLY LAMINATED 0.000 FEET THICKLY LAMINATED 0.000 FEET THINLY LAMINATED THE BLOW BY HAMMER DISINTEGRATES SAMPLE. INDURATED GRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE; BREAKS EASILY WHEN HIT WITH HAMMER. GRAINS CAN BE SEPARATED FROM SAMPLE WITH STEEL PROBE; DIFFICULT TO BREAK WITH HAMMER.	OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (SPEC) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (SRQD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE. DOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER. BENCH MARK: ELEVATION: FEET NOTES: SOIL STRATIGRAPHY IS THROUGH THE BORINGS FOR PROFILE.
(BLDR.) (COB.) (GR.) (GR.) (CSE.SD.) (F.SD.) (SL.) (CL.) GRAIN MM 305 75 2.0 0.25 0.05 0.005 SIZE IN. 12 3 SOIL MOISTURE - CORRELATION OF TERMS SOIL MOISTURE SCALE (ATTERBERG LIMITS) SOIL MOISTURE SCALE (SATE DESCRIPTION) - SATURATED - USUALLY LIQUID; VERY WET, USUALLY FROM BELOW THE GROUND WATER TABLE - WET - (W) SEMISOLID; REQUIRES DRYING TO ATTAIN OPTIMUM MOISTURE SL SHRINKAGE LIMIT - MOIST - (M) SOLID; AT OR NEAR OPTIMUM MOISTURE SHRINKAGE LIMIT - DRY - (D) REQUIRES ADDITIONAL WATER TO ATTAIN OPTIMUM MOISTURE PLASTICITY PLASTICITY PLASTICITY PLASTICITY INDEX (P) DRY STRENGTH MODERATELY PLASTIC 6-15 SLIGHT MODERATELY PLASTIC 16-25 MEDIUM COLOR	ABBRE VIATIONS AR - AUGER REFUSAL BT - BORING TERMINATED MICA MICACEOUS CL CLAY MOD MODERATELY CPT - CONE PENETRATION TEST OMC ORGANIC DMT - DILATOMETER TEST DPT - DYNAMIC PENETRATION TEST C - VOID RATIO F - FINE SL SILT, SILTY FRAC, - FRACTURED, FRACTURES FRAC, - FRACTURED, FRACTURES HI HIGHLY CEUIPMENT USED ON SUBJECT DRILL UNITS: CME-550 AVANCING TOOLS: WEA WEATHERED WEA WEATHERED WEA WEATHERED WEA WEATHERET WEA WEATHERED WEA WEATHERET WEA WEATHERET WEAL - ORGANIC WEA WEATHERET WEAL - WEATHERET SHIT WEIGHT WEAL - WEATHERET SAMPLE ABBREVIATIONS S - BULK S - BULK S - SHLIT SPOON S - SPLIT SPOON S - SHELP T - VANE SHEAR TEST VANE SHEAR TEST CASING W/ ADVANCER HAND TOOLS: POST HOLE DIGGER HAND AUGER SOUNDING ROD	MODERATELY CAN BE SCRATCHED BY KNIFE OR PICK. GOUGES OR GROOVES TO 0.25 INCHES DEEP CAN BE EXCAVATED BY HARD BLOW OF A GEOLOGIST'S PICK, HAND SPECIMENS CAN BE DETACHED BY MODERATE BLOWS. MEDIUM CAN BE GROOVED OR GOUGED 0.85 INCHES DEEP BY FIRM PRESSURE OF KNIFE OR PICK POINT. CAN BE EXCAVATED IN SMALL CHIPS TO PEICES I INCH MAXIMUM SIZE BY HARD BLOWS OF THE POINT OF A GEOLOGIST'S PICK. SOFT CAN BE GROVED OR GOUGED REDILY BY KNIFE OR PICK. CAN BE EXCAVATED IN FRAGMENTS FROM CHIPS TO SEVERAL INCHES IN SIZE BY MODERATE BLOWS OF A PICK POINT. SMALL, THIN PIECES CAN BE BROKEN BY FINGER PRESSURE. VERY CAN BE CARVED WITH KNIFE. CAN BE EXCAVATED READILY WITH POINT OF PICK. PIECES I INCH OR MORE IN THICKNESS CAN BE BROKEN BY FINGER PRESSURE. CAN BE SCRATCHED READILY BY FINGERNAIL. FRACTURE SPACING TERM SPACING VERY WIDE MORE THAN 10 FEET VERY THICKLY BEDDED 4 FEET THICKLY BEDDED 1.5 - 4 FEET THICKLY BEDDED 0.16 - 1.5 FEET CLOSE 0.16 TO 1 FOOT VERY THINLY BEDDED 0.03 - 0.16 FEET THINLY BEDDED 0.093 - 0.03 - 0.16 FEET THINLY BEDDED 0.093 - 0.03 - 0.16 FEET THINLY LAMINATED 0.090 - 0.03 - 0.03 FEET THINLY LAMINATED 0.090 - 0.093 FEET THINLY LAMINATED 0.090 - 0.093 FEET THINLY LAMINATED 0.090 -	OR SLIP PLANE. STANDARD PENETRATION TEST (PENETRATION RESISTANCE) (SPT) - NUMBER OF BLOWS (N OR BPF) OF A 140 LB. HAMMER FALLING 30 INCHES REQUIRED TO PRODUCE A PENETRATION OF 1 FOOT INTO SOIL WITH A 2 INCH OUTSIDE DIAMETER SPLIT SPOON SAMPLER. SPT REFUSAL IS PENETRATION EQUAL TO OR LESS THAN 0.1 FOOT PER 60 BLOWS. STRATA CORE RECOVERY (SPEC) - TOTAL LENGTH OF STRATA MATERIAL RECOVERED DIVIDED BY TOTAL LENGTH OF STRATUM AND EXPRESSED AS A PERCENTAGE. STRATA ROCK QUALITY DESIGNATION (SRQD) - A MEASURE OF ROCK QUALITY DESCRIBED BY TOTAL LENGTH OF ROCK SEGMENTS WITHIN A STRATUM EQUAL TO OR GREATER THAN 4 INCHES DIVIDED BY THE TOTAL LENGTH OF STRATA AND EXPRESSED AS A PERCENTAGE. DOPSOIL (TS.) - SURFACE SOILS USUALLY CONTAINING ORGANIC MATTER. BENCH MARK: ELEVATION: FEET NOTES: SOIL STRATIGRAPHY IS THROUGH THE BORINGS FOR PROFILE.





(II) (ft) (II) 0.5ft 0.	
COLLAR ELEV. 779.3 ft TOTAL DEPTH 30.5 ft NORTHING 761,189 EASTING 1,628,611 24 HR. 12.0 DRILL RIGHAMMER EFF,DATE HF00066 CME-550 81% 03/19/2014 DRILL METHOD H.S. Augers DRILLER Estep, J. E. START DATE 03/24/15 COMP. DATE 03/24/15 SURFACE WATER DEPTH N/A ELEV OR HOLLOW (ft) Comp. DATE 03/24/15 COMP. DATE 03/24/15 SURFACE WATER DEPTH N/A DEPTH (ft) Comp. DATE 03/24/15 SURFACE WATER DEPTH N/A DEPTH (ft) Comp. DATE 03/24/15 SURFACE WATER DEPTH N/A DEPTH (ft) Comp. DATE 03/24/15 SURFACE WATER DEPTH N/A DEPTH (ft) Comp. DATE 03/24/15 SURFACE WATER DEPTH N/A DEPTH (ft) Comp. DATE 03/24/15 SURFACE WATER DEPTH N/A DEPTH (ft) Comp. DATE 03/24/15 SURFACE WATER DEPTH N/A DEPTH (ft) Comp. DATE 03/25/15 SURFACE WATER DEPTH N/A DEPTH (ft) Comp. DATE 03/25/15 SURFACE WATER DEPTH N/A DEPTH (ft) Comp. DATE 03/25/15 SURFACE WATER DEPTH N/A DEPTH (ft) Comp. DATE 03/25/15 SURFACE WATER DEPTH (ft) Comp. DATE 03/25/15	
DRILL RIGHAMMER EFF, DATE HF00066 CME-550 81% 03/19/2014 DRILL METHOD H.S. Augers HAMMER TYPE Automatic DRILL RIGHAMMER EFF, DATE HF00066 CME-550 81% 03/19/2014 DRILL METHOD H.S. Augers	3.709 24 HR. 6.0
DRILLER Estep, J. E. START DATE 03/24/15 COMP. DATE 03/24/15 SURFACE WATER DEPTH N/A	
Column C	HAMMER TYPE Automatic
(ft) (ft) 0.5ft 0.	R DEPTH N/A
775 775.3 4.0 3 3 3 4.0	ND ROCK DESCRIPTION
RESIDUAL TAN-OLIVE MED. STIFF MOIST TO WET SANDY SILTY CLAY (A-7) 770 770. 3 9.0 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 770. 5 3.5 770 77	GROUND SURFACE 0.
775 775.3 † 40	RESIDUAL & TAN-ORANGE MED. STIFF
770 770.3 9.0 765.5 + 8.5 2 1 2 1 2 1 2 1 3 2 1 2 1 3 3 3 3 3 3 3 3 3	MOIST SANDY SILTY CLAY (A-7)
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	
$oxed{1}$	13.
765 765.3 T 14.0 760.5 T 13.5 7	RESIDUAL AN & OLIVE MED. STIFF TO IST TO WET SANDY CLAYEY
1 + ₁	SILT (A-5)
760 760.3 19.0 2 2 2 2 4 4	
755 755.3 24.0	
T 2 3 4 1 10 10 20 W 1/2	
750 750 3 + 20 0 \land \cdot	28.
$T = \begin{bmatrix} 2 & 5 & 9 \end{bmatrix} $	WEATHERED ROCK SEV. WEATH. CRYSTALLINE
Boring Ter	ROCK minated BY AUGER REFUSAL on 744.1 ft ON CRYSTALLINE
	ROCK
$ \cdot $	



VBS 38331.1.1	TIP B-3159 COUNTY DA	AVIDSON	GEOLOGIST Murray, C. C.		WBS 38331.	1.1		TIP	B-3159 CC	UNTY DAVIDS	ON		GEOI	OGIST Murray, C. C.		
	ON SERVICE RD. (SR 1895) (STA. 10+			GROUND WTR (ft)			ISE WA		SERVICE RD. (SR 1895)	 					GROUND WTR	(ft)
BORING NO. B-5	STATION 13+95 OFF	FSET 5 ft LT	ALIGNMENT -NW-	0 HR. Dry	BORING NO.	B-6			ATION 15+00	OFFSET	10 ft LT	•		NMENT -NW-	0 HR . 2	28.0
COLLAR ELEV. 792.0 ft		RTHING 761,198	EASTING 1,629,004	24 HR. 20.0	COLLAR ELE	V. 795.41	t	то	TAL DEPTH 30.0 ft	NORTHING	· ·			ING 1,629,108		18.0
PRILL RIG/HAMMER EFF./DATE HFOOD	066 CME-550 81% 03/19/2014	DRILL METHOD H.S.	Augers HAMN	MER TYPE Automatic			TE HFC	00066 CM	ME-550 81% 03/19/2014		DRILL	METHO	D H.S. Augers	HAN	MMER TYPE Automati	ic
RILLER Estep, J. E.		MP. DATE 04/06/15	SURFACE WATER DEPTH N	/A	DRILLER Est				ART DATE 04/07/15	COMP. DA			SURF	ACE WATER DEPTH	N/A	
LEV DRIVE ELEV (ft) DEPTH BLOW COUNTY (ft) 0.5ft 0.5ft 0	IT BLOWS PER FOOT 1.5ft 0 25 50 75	SAMP. L O NO. MOI G	SOIL AND ROCK DES	SCRIPTION DEPTH (ft)	ELEV DRIVE ELEV (ft)	OEPTH BI (ft) 0.5	OW CO		BLOWS PER 0 25 50	FOOT 75 100	SAMP NO.	1 /	0 1 G	SOIL AND ROCK DI	ESCRIPTION	
790	10 17	M M M M M M M M M M M M M M M M M M M	764.0 RESIDUAL RED-TAN & TAN V. ST STIFF MOIST TO WET: CLAY (A-7) W/ TRACE 761.7 TAN MED. STIFF WET TO SANDY SILT (Boring Terminated at Elev MED. STIFF WET TO S SANDY SILT (28.0 D SAT. CLAYEY 30.3 at 10.17 ft IN SAT. CLAYEY	790 786.9 781.9 780 780 780 780 780	0	1 0	13 3 2 2 4	6:			M M MW W/S W/S		GROUND SUI RESIDUA RED-TAN & TAN W/B STIFF TO SOFT MOIST SILTY CLAY Boring Terminated at Ele MED. STIFF WET TO SA CLAY (A-	AL LK STREAKS V. TO SAT. SANDY (A-7) evation 765.4 ft IN AT. SANDY SILTY	30.0

ITE D										DAVIDS	OIN			GEO	LOGIST Murra	y, C. C.	_		WBS	38331	.1.1			IIP	B-3159		COUNTY	DAVIDSO	ON		GEOL	OGIST Murray,	C. C.	
IIED	ESCRIPT	ΓΙΟN	NOISE V	VALL	ON S	ERVICE I	RD. (SF	R 1895)) (STA.	10+00 TC	22+4	15)					GROUND	WTR (ft)	SITE	DESCR	IPTION	NOISI	E WALL (ON SE	ERVICE F	RD. (SR 1	895) (STA.	10+00 TO	22+45)					GROUND WTR
ORIN	G NO. E	3-7			STA	TION 16	6+00		(OFFSET	5 ft L	т.		ALIG	NMENT -NW-		0 HR.	Dry	BORI	NG NO.	B-8			STAT	TION 17	+00		OFFSET	5 ft LT		ALIG	NMENT -NW-		0 HR.
OLLA	AR ELEV	. 795.	.1 ft		тот	AL DEPT	H 30.	.4 ft	1	NORTHIN	I G 76	31,182		EAS	TING 1,629,208	8	24 HR.	20.0	COLI	LAR ELE	EV. 79:	3.0 ft		TOT	AL DEPTI	d 29.9 fl	t I	NORTHING	7 61,	176	EAST	ING 1,629,307]2	24 HR. 2
RILL R	RIG/HAMME	ER EFF.	DATE	IFO006	66 CME	-550 81%	03/19/2	2014			DRI	LL MET	HOD +	I.S. Augers		HAMN	IER TYPE Au	tomatic	DRILL	RIG/HAN	IMER EFI	F./DATE	HFO0066	6 CME	-550 81%	03/19/2014	4		DRILL	METHOD	H.S. Augers		HAMMER	R TYPE Automati
RILLE	ER Este	р, J. Е	•		STA	RT DATE	04/0	7/15	(COMP. D	ATE	04/07/	15	SURI	ACE WATER D	DEPTH N	/A		DRIL	LER E	step, J. l	E.		STAF	RT DATE	04/08/1	5	COMP. DA	TE 04	/08/15	SURF	ACE WATER DE	PTH N/A	
EV I			BLOW 0.5			0 2	BLOV 25	VS PER 50	FOOT 7	5 10	11	'	L O MOI G		SOIL AND	ROCK DES		DEPTH (ft)	ELEV (ft)	DRIVE ELEV (ft)	DEPTH (ft)	BLOV 0.5ft	V COUNT	Г 0 5ft 0) 2		PER FOOT 50 7	5 100	SAMP NO.	1 / 10		SOIL AND RO	OCK DESC	RIPTION
	(11)						1						VIOI G	ELEV. (11)			DEPTH (II)		(11)					l		1			7 IVIOI C	,			
00																			795															
	<u> </u>													E																	793.0		ID SURFA	CE
	‡													705.4	CDO	LIND CLIDE	ACE	0.0		-					: : : :						1	RED STIFF TO		
95	+				\dashv	<u>.</u> .					+			795.1		UND SURF		0.0	790	789.6	3.4	4	5 6	-	. 4				1	M	+	SANDY SI	LTY CLAY	(A-7)
														<u> </u>	RED-TAN & TA WET SAN	AN-RED ST DY SILTY (TIFF MOIST TO CLAY (A-7))		-					· / • 1.1 ·					"	<u></u>			
90	791.2 <u>T</u>	3.9	3 6	8	В	 •14_		-			<u></u> ∐		м	_					785	- 784.6	81				<i>i</i> ':::						±			
	ŧ					· ·/· ·		-						<u> </u>						704.0	0.4	3	2 2	2	4					М	1			
Ŀ	786.2	8.9				.] .]		-						<u> </u>						-	<u> </u>				l 						1			
85	\pm		3 4	. 6	° -	1 0—					+	M	I/W	\pm					780	779.6	13.4	2	2 2	\dashv	<u> </u>		 			١,, 🖟	780.0	RE	SIDUAL	
	Ŧ					: [: : :	: : :							782.1				13.0		-	-	_		• •	∮ 4					M N	<u>;</u> -	RED-TAN & BLA MED. STIFF MC		
80	781.2 T 1	13.9	3 3	. 5	5	11	: : :		: : :			l _M	w 📜	F	TAN-WHITE ME	RESIDUAL ED. STIFF N	MOIST TO WE	т	775		F				[::::		: : : :			1 7	₩	MICA. SANDY		
	Ŧ					·[· · ·		.						宇	SANDY	CLAYEY S	LT (A-5)			774.6	18.4	1	2 2		4						ĶĒ.			
.	776.2 T	18.9				1	: : :	-					_ 148	<u>;</u>						-	-									, N	; [
75	Ŧ		2 2	3	3	þ 5							▼ 1 N	1					770	769.6	23.4			_ H	<u> </u>				-	1 .7	<u> </u>			
	‡					1:::							N.	772.1				23.0		-		1	2 1	' ₹	3					M/W				
70	771.2 ‡ 2	23.9	1 2	. 2	_	<u> </u>		-					w	112.1	RED-TAN-BLA	RESIDUAL	D.MED. CTIEF		765	-					ļ					٨.				
70	‡		' -		- -	9 4					11	l IV	VVV	+	WET TO SAT.	SANDY SIL	TY CLAY (A-7)	765	764.6	28.4	1	2 3	3	1		 		1	M/W	700.4			
						1								†						-					— 5				4		763.1	Boring Terminated		
65	766.2 1 2	28.9	2 3	4	4	7		-			∐	l v	//S					30.4		-											Ł	MED. STIFF MC CLAYE	OIST TO WI YSILT (A∹	
	Ŧ								'					E	Boring Termina MED. STIFF WE	ated at Eleva	ation 764.7 ft IN	1		-	<u> </u>										E			
	‡													E		CLAY (A-7)				-											E			
	\pm													\vdash						-	- 1										-			
	Ŧ													-						-	-										-			
	Ŧ													F						-	F										F			
	7													F						-											F			
	‡													F						-											F			
	#													Ė.						_											Ė.			
	‡													ţ						-											ţ			
	‡													E						-											E			
	\pm													F						-	t l										F			
	Ŧ													F						-	F										F			
	Ŧ													F						-	F										F			
	‡													F						-											F			
	‡													ļ.						-											ļ.			
	#													<u>L</u>						-											Ė			
	‡													<u> </u>						-	‡										ţ			
	Ī													E						-	<u> </u>										E			
	Ŧ													-						_											F			
	Ŧ													F						-	F										F			
	‡													F						-	‡										F			
	‡													F						-	‡										F			
	+													F						-	t l										+			

	38331.					P B-3159					VIDSO			G	GEOLOGIST Murray, C. C.		WBS 383					IP B-3159		1	Y DAVIDSO			GE	OLOGIST Murray, C. C	
			NOISE	E WAL		SERVICE			95) (ST							GROUND WTR (ft)				ISE W				895) (STA	A. 10+00 TO					GROUND WTR (
	NG NO.				_	ATION				+	SET 5				LIGNMENT -NW-	0 HR. 25.0	BORING N					TATION ^			OFFSET				IGNMENT -NW-	0 HR. 31
	AR ELE					TAL DE				NOR'		761,16			ASTING 1,629,417	24 HR. 20.0	COLLAR						TH 35.4 f	-	NORTHING	<u> </u>			STING 1,629,507	24 HR. 20
				HFO(ME-550 81				1		DRILL M			•	MER TYPE Automatic	DRILL RIG/H			TE HF					l			H.S. Auge		MMER TYPE Automatic
	ER Est	-				ART DAT					IP. DAT	TE 04/0	08/15 ▼/ L		URFACE WATER DEPTH N	/A	DRILLER			0144 04		TART DAT	E 04/08/1		COMP. DA			SUI	RFACE WATER DEPTH	N/A
(ft)	DRIVE ELEV (ft)	OEPTH (ft)	0.5ft	0.5ft	0.5ft	0	25 25	OWS P		75 	100	NO.	MOI C)	SOIL AND ROCK DES	SCRIPTION DEPTH (ft)	ELEV ELE			OW CO	0.5ft	0		PER FOOT	75 100	SAMP.	MO	O G	SOIL AND ROCK I	DESCRIPTION
_																														
95	$\overline{}$													-			790	┿					1	T				789.6	GROUND SI ROADWAY EMI	
	‡													E				‡				: : :							BRN-TAN STIFF MOI CLAY (A-7) W/ ASPHA	ST SANDY SILTY
	1					<u> </u>								790			785	7 + 3.9	5	5	6	<u> </u>					_M		CLAT (A-T) WI AGELIA	ET & BASE 0.0-1.0
	Ŧ														ROADWAY EMBAN RED-TAN MED. STIFF TO	O SOFT MOIST		Ŧ				911					IVI			
Ĺ	786.4	3.8					- -			-			L		TO WET SANDY SILTY (ASPHALT & BASE	CLAY (A-7) W/ : 0.0-1.0	700	T 7 + 8.9				:: :::			.			781.6	RESIDU	IAI
	Ŧ		3	2	3	\$ 5	+-						M				780	7 + 8.9	4	5	8	13		1	+		M/W		RED & TAN STIFF TO	MED. STIFF MOIST
	‡																	‡				: <i>j</i> ::							TO WET SANDY SI	LTY CLAY (A-7)
_	781.4 ‡	8.8	1	1	2	<u> i</u> : : :	: :										775 775	7 13.9] :/:::								
	+		.	·	-	● 3	-									40.0	775	†	3	3	4	7	1	1			M/W			
	+					i	. .							778	RESIDUAL			+				; : :								
_7	776.4 †	13.8	1	1	2	1 · · · ·]]						w	-	TAN & RED-TAN SOFT 1 SANDY SILTY CLA		770 770	7 18.9) 1	2	2									
	Ŧ					<u> </u>										,		Ŧ	'	-	-	4					_			
	771.4 +	18.8					: :											‡				[] []						766.6		
_		10.0	1	1	2	3	- -						V				765	7 + 23.9	1	2	3		: : : :				M/W	12 L	RESIDU OLIVE & BLACK SWIR	
	İ						: :							1				±				T °						14 % E	TO STIFF MOIST T	O WET SANDY
	766.4	23.8				i	. .			-			abla				700	, Ŧ							.			15E	CLAYEY SII	.1 (A-5)
	#		1	1	2	3	1						$\overline{}$	-			760	7 <u>+ 28.9</u> +	2	2	5	1 -1,	: : : :				w	17 -		
	‡					i: : :	: :											‡				:7: : :					\Box			
<u> 7</u> f	61.4 🛨	28.8		1	3	· · · ·	: :	: : :						1			755	7 + 33.9	,			:); : :	: : : :							
	Ŧ		'	'	3	4	-						W	\mathbf{F}			755 755	1 	4	6	7	13		+			w	754.2		3
	Ŧ									-				1				Ŧ										F	Boring Terminated at E STIFF WET SANDY C	levation 754.2 ft IN LAYEY SILT (A-5)
_7	756.4 ‡	33.8	3	3	5	1.7.	: :			- 1			w			25.0		‡											0	21121 0121 (710)
-						8						1	**	754	Boring Terminated at Elev STIFF WET SANDY SIL	35.3 ation 754.9 ft IN		‡												
	+													ŀ	STIFF WET SANDY SILT	ΓY CLAY (A-7)		+										-		
	Ŧ													F				Ŧ										F		
	‡													-				‡												
	<u>†</u>													Ł				<u> </u>												
	Ŧ													F				Ŧ												
	‡													F				‡												
	<u> </u>													Ł				‡												
	+													ŀ				<u>†</u>										-		
	‡													F				Ŧ										F		
	‡													ļ				‡												
														Ł				1										L		
	+													-				+										-		
	Ŧ													F				Ŧ										l F		
	‡													Ļ				‡												
ĺ	‡													ţ				‡												
	Ŧ													-				+										-		
	‡													F				‡												
	‡													<u> </u>				‡												
ĺ	+													L				1										<u> </u>		
	‡													F				Ŧ										ΙF		
	‡													ļ.				‡												
	- 1	- 1	1									1	1	L			1		1	1						1	I	1 L		



/BS	38331	.1.1			TI	P B-315	9	COUNT	Y DAVIDSO	N			GEOLOGIST Murray,	C. C.		
ITE	DESCR	IPTION	NOI	SE WA	ALL ON	SERVIC	E RD. (SR 1	895) (STA	. 10+00 TO 2						GROUNI	WTR (ft
ORII	NG NO.	B-13			S	TATION	22+00		OFFSET (CL			ALIGNMENT -NW-		0 HR.	Dry
OLL	AR ELI	EV. 79	91.9 ft		T	OTAL DE	PTH 30.2 ft	:	NORTHING	761,0	95		EASTING 1,629,801		24 HR.	21.0
RILL	RIG/HAN	MER EF	F./DAT	E HF	00066 C	ME-550 81	% 03/19/2014	ļ.		DRILL N		H.S	. Augers	HAMM	ER TYPE	Automatic
RILI	ER E	step, J.	E.		S	TART DA	TE 04/09/1	5	COMP. DAT	ΓE 04/0	09/15		SURFACE WATER DE	PTH N	'A	
EV		DEPTH (ft)	·——	OW CO				PER F001		SAMP.	lacksquare		SOIL AND RO	OCK DES	CRIPTION	
11)	(ft)	(11)	0.5ft	0.5ft	0.5ft	0	25	50	75 100	NO.	/MOI	G	ELEV. (ft)			DEPTH
95	_	-											-			
		Ŧ										l F	791.9 GROUI	ID SURF	ACE	C
90	-	F												SIDUAL		
	788.2	3.7										7137	788.9	(A-7)	T OILTT OL	3
		-	3	6	6	. •12					М		RED-TAN TO TA			
35	-	-				 							STIFF TO STIFF I CLAYEY SILT &	CLAYEY		
	783.2	8.7	3	4	5	: :					M			(A-5)		
30	-	‡									"					
,,,	778.2 -	137				 . j							-			
	- 110.2	13.7	4	3	5	. . ● 8 .					М					
'5	-	‡				<u> ·j · ·</u>							-			
	773.2	18.7	2	2	2	{ : : :										
	-	<u> </u>	_	-	2	♦ 4					M/W	N.V.				
0	-	ŧ				 	. 	 	 				-			
-	768.2	23.7	3	3	3						M/W					
35	-	Ŧ				-\(\).										
	763.2	28.7				- + -						N.	-			
		-	3	6	5	. 11	<u> </u>				M/W	<u> </u>	761.7		11 704 7.0	30
	-	‡											Boring Terminate STIFF MOIST TO	WET CL		
		‡											S	LT (A-5)		
	-	‡														
	-	‡											-			
		‡														
	-	‡											_			
		‡										l Ŀ				
	-	ł										ΙĿ				
	-	ł										l E	-			
	-	F										l F				
	-	Ŧ										l F				
	-	Ŧ										l F	-			
		‡														
	_	‡											_			
		‡														
	-	‡														
	-	‡											-			
												E				
	-	Ŧ										F				
	-	Ŧ											-			
		‡														
	-	‡											-			
		‡														
	-	t										<u> </u>				